

CASE REPORT

Acute Acalculous Cholecystitis in Dengue Fever: An Alert for Emergency Surgeons

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ABSTRACT

Dengue fever is an acute viral disease, typical of tropical countries and endemic in Brazil, which can present abdominal symptoms and complications. One of its atypical presentations is acute acalculous cholecystitis (AAC), present in 6% of the severe cases. It is usually self-limited, and generally improves with nonoperative treatment.

This is a case report of a patient transferred to a tertiary hospital for surgical evaluation of acute abdomen. She presented with significant abdominal findings (pain, nausea, and vomits), suggestive of acute cholecystitis. After initial assessment and examinations, the patient was diagnosed with severe dengue fever and AAC. The patient was treated conservatively and improved within 3 days. Physicians must be aware of ACC in patients with suspicious presentations in endemic areas for dengue fever. Surgery should be avoided once it is associated with significant postoperative complications and death.

Keywords: Acalculous cholecystitis, Acute cholecystitis, Dengue fever.

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RESUMO

Dengue é uma doença viral aguda típica de países tropicais e endêmica no Brasil, que afora manifestações gerais pode apresentar sintomatologia abdominal. Uma das apresentações atípicas que o cirurgião deve estar atento é a colecistite aguda alitiásica (CAA), presente em 6% dos casos de dengue severa,

geralmente autolimitada, requerendo na maioria dos casos apenas tratamento conservador.^{1,2}

Este artigo reporta o caso de uma paciente transferida para hospital terciário com suspeição de dengue grave associada a abdome agudo, com clínica sugestiva colecistite aguda. Nesta instituição, foi firmado o diagnóstico de dengue grave associada a CAA. A paciente foi tratada conservadoramente e apresentou melhora da sintomatologia em três dias.

A CAA deve ser investigada em pacientes com sintomatologia suspeita e que habitam áreas endêmicas de dengue, sendo o tratamento cirúrgico desta condição associado a elevado índice de complicações pós-operatórias e morte.

Descritores: Colecistite aguda, Colecistite alitiásica, Dengue.

RESUMEN

El Dengue es una enfermedad viral aguda, típica de los países tropicales y endémica em Brasil, la cual puede presentar síntomas abdominales y complicaciones. Una de sus presentaciones atípicas es la colecistitis acalcula aguda (AAC por sus siglas en inglés), presente en el 6% de los casos graves. Generalmente se auto-limita, y mejora com el tratamiento no quirúrgico.

Este es el caso clínico de un paciente trasladado a um hospital terciario para la evaluación quirúrgica del abdomen agudo. Presentó graves malestares y síntomas abdominales (dolor, náuseas y vómitos), sugestivos de colecistitis aguda. Después de la evaluación inicial y de los resultados de los exámenes, la paciente fue diagnosticada con dengue grave y colecistitis acalcula aguda. El paciente fue tratado bajo sumo cuidado y mejoró em tres días. Los médicos deben investigar la colecistitis acalcula aguda en pacientes com presentaciones sospechosas, en áreas endémicas para el dengue. La cirugía debe ser evitada, una vez que se asocia con complicaciones postoperatorias significativas y muerte.

Palabrasclave: Colecistitis aguda, Colecistitis acalculosa, Dengue.

INTRODUCTION

Dengue is an acute viral infection, typical in tropical countries and endemic in Brazil. Some patients can present with abdominal, neurological, cardiac, and pulmonary atypical manifestations. The emergency surgeon must be aware of these findings, such as abdominal pain, nausea, vomiting, jaundice, and elevated liver enzymes.¹⁻⁶

This article is a case report of a patient with severe dengue fever and acute acalculous cholecystitis (AAC), warning surgeons about its pathology and peculiar treatment.

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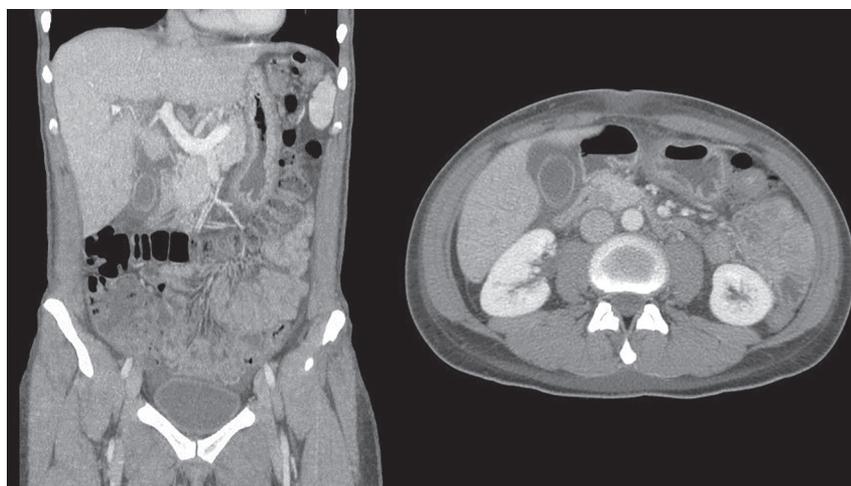


Fig. 1: Abdominal tomography revealing a thickened gallbladder wall, without gallstones, and a small amount of peritoneal fluid

CASE REPORT

A 30-year-old woman was transferred to the Emergency Department of tertiary hospital for surgical assessment of acute abdomen. At admission, the patient presented with moderate and diffuse abdominal pain, irradiated to the back, followed by nausea and biliary vomit, without cholestatic symptoms for 3 days. She also complained of severe and continuous frontal-parietal headache, generalized pruritus, swelling and erythema in both feet and hands, and unmeasured fever for 5 days.

On physical examination, the patient presented with stable vital signs, distended abdomen, and superficial pain at the palpation of epigastric and right upper quadrant, Murphy's sign, and positive tourniquet test. Laboratory examinations showed hemoglobin: 12.6 gm/dL; hematocrit: 36.5%; leukocytes: 1,400 mm³; platelet: 30,000 mm³; aspartate transaminase (AST): 218 U/L; alanine transaminase (ALT): 152 U/L; RPC: 4.51. All the other tests were in the reference value. The patient had clinical and epidemiological criteria for dengue "warning signs" and acute cholecystitis. Abdominal ultrasonography and tomography revealed a thickened gallbladder wall, without gallstones, and a small amount of peritoneal fluid (Fig. 1). The diagnosis of acute dengue fever was confirmed by immunochromatography.

She underwent symptomatic treatment for dengue (according to the Brazilian Health Ministry protocol) and conservative management for ACC. Three days later, the patient improved clinically. The laboratory showed: hemoglobin: 12.1 gm/dL; hematocrit: 37.9%; leukocytes: 3,340 mm³; platelet: 92,700 mm³; AST: 112 U/L; ALT: 169 U/L; normal levels of bilirubin and gamma-glutamyl transferase. On 30 days follow-up after discharge, the patient was asymptomatic.

DISCUSSION

Dengue fever is an acute viral disease with an extensive spectrum of symptoms and severity, manifesting itself from fever and myalgia to multiple organ failure and shock.^{3,4} About 15.8% of the patients present with atypical findings, such as encephalitis, Guillain-Barré syndrome, renal failure, cardiac disturbs, pancreatitis, and AAC.^{3,5}

In general, AAC occurs in 5 to 10% of patients with acute cholecystitis, with symptoms indistinguishable from the calculous cholecystitis. However, these patients have a different clinical profile. They are commonly associated to severe underlying conditions, and the mortality rate is up to 30%.^{3,5,6} Acute acalculous cholecystitis could be related to trauma, parenteral nutrition, diabetes mellitus, and infectious diseases, such as salmonellosis, rickettsiosis, leptospirosis, sepsis due to *Staphylococcus aureus*, and dengue fever.^{3,4,6} The physiopathology involves injury by ischemia-reperfusion, systemic inflammatory response, and biliary stasis.^{1,6} In dengue fever, the mechanism is believed to be microangiopathy.³⁻⁵

Dengue fever AAC is usually self-limited, has an incidence of 6%, and requires supportive measures in most cases.³⁻⁵ Ultrasound is the imaging method for investigation. The finding of thickened gallbladder's wall of over 5 mm is an indicator of severity and risk of hypovolemic shock.³ Conservative management (symptomatic) is successful in the majority of cases.⁵ The invasive treatment, by cholecystectomy or percutaneous drainage, is reserved for those cases with suspicion of gangrene or perforation of the gallbladder, associated with peritonitis. When surgical management is required, hemorrhagic complications are common, including death in consequence of hypovolemic shock. The hospital length of stay in any invasive treatment (including percutaneous cholecystostomy) performed is longer (17 days *vs* 4

days for conservative management), partially because of postoperative complications.^{1,3,5}

Whenever facing patients with signs and symptoms of acute cholecystitis and ultrasound demonstrating thickening of the gallbladder wall and absence of gallbladder stones, acute care surgeons should have the diagnosis of AAC associated with dengue fever in mind, in case the patient comes or lives in endemic area. Recognition of this association should avoid surgical interventions in clinically stable patients, once the symptoms are usually self-limited, and operative procedures are associated with a high rate of complications and mortality.³⁻⁵

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